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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,535	12/09/2003	Alexei A. Karve	IBM-267	4563
7590	05/31/2006		EXAMINER	
Thomas A. Beck Esq. 26 Rockledge Lane New Milford, CT 06776			ONI, OLUBUSOLA	
			ART UNIT	PAPER NUMBER
			2168	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/731,535	KARVE ET AL.	
	Examiner OLUBUSOLA ONI	Art Unit 2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 09 December 2003.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-36 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-36 is/are rejected.  
 7) Claim(s) 1,4,10,19 and 28 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

1. This action is responsive to communications: Application filed on 12/09/2003.

**Abstract**

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

**Claim Objection**

3. Applicant needs to fix the following claims:

In claims 1d, 10d, 19d and 28d, the word "an" should be removed.

In claim 4, the word "tyhe" should be replaced – with the--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The term "as needed" in claim 1(G) is a relative term which renders the claim indefinite. The term "as needed" is not defined by the claim, the specification does not

provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 and 10 are rejected under 35 U.S.C. 101 because the claim invention is directed to non-statutory subject matter.

In claims 1 and 10, "computer program code" is recited; however it is unclear as to where the program code will be stored, i.e., program code storage was not mentioned in the claims. Therefore it is not limited to tangible, patent-eligible subject matter.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international

application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Vagnozzi, Paul (Pub No. 2003/0135495) hereinafter "Vagnozzi"

For claim 1, Vagnozzi teaches "An article of manufacture comprising computer usable medium having computer readable program code means embodied therein for causing a relationship to be implemented within a database using BitSets, the computer readable program means in said article of manufacture comprising computer readable program code means for causing a computer to effect (See paragraph [0139]) "defining a database scheme" (See paragraph [0001-0010]) "quantify a relationship among a plurality of entities"(See paragraph [0005-0006], [0010-0011] and [0014]) "populate said database with instances of relationships among said entities and concurrently populating said database with Bitsets, inserts, deletes and/or changes"(See paragraph [0006, [0013-0014], [0036], [0062]) "submitting a query for desired information so that said database performs evaluation of said query using said Bitsets" (See paragraph [0040-0048]) "database generates a resultant set"(See paragraph [0047-0049])

“resultant set returned to a requestor”(See paragraph [0003], [0036-0038])

“repeat any or all steps as needed”(See paragraph[00182], [0292])

For claim 2, Vagnozzi teaches “the computer readable program code means in said article of manufacture further comprising computer readable program code means for causing a computer to effect an independent query to said database and said data base transforms said query to a bit set query” (See paragraph [0048])

For claim 3, Vagnozzi teaches “the computer readable program code means in said article of manufacture further comprising computer readable program code means for causing a computer to effect the use of BitSets, said BitSets being selected from the group consisting of User Defined Type BitSets and fast User defined functions” (See paragraph [0005-0006], [0048], [0139], [0185], [0285])

For claim 4, Vagnozzi teaches “the computer readable program code means in said article of manufacture further comprising computer readable program code means for causing a computer to effect, if the relationship in said database comprises one or more levels of inheritance relationships, the aggregation of inheritance bitsets through forward and/or backward propagation” (See paragraph [0005-0006])

For claim 5, Vagnozzi teaches “the computer readable program code means in said article of manufacture further comprising computer readable program code means for

causing a computer to effect, if the relationship in said database comprises one or more levels of boolean expression relationships, the generation of boolean expression bitsets through forward and/or backward propagation" (See paragraph [0004], [0008], [0047], [0149])

For claim 6, Vagozzi teaches "the computer readable program code means in said article of manufacture further comprising computer readable program code means for causing a computer to effect the use of fast User Defined Functions, said fast User Defined Functions being selected from the group consisting of scalar functions and column functions" (See paragraph [0059],[0193-0197], [0238], [0269], [0310])

For claim 7, Vagozzi teaches "the computer readable program code means in said article of manufacture further comprising computer readable program code means for causing a computer to effect the use of scalar functions" (See paragraph [0310], [0445])

For claim 8, Vagozzi teaches "the computer readable program code means in said article of manufacture further comprising computer readable program code means for causing a computer to effect the use of scalar functions said scalar functions selected from the group consisting of BSGetLength(BITSET), BSInitO, BSInit(BIGINT,BIGINT), BSSetBit(BitSet, BIGINT), BSClearBit(BitSet, BIGINT), BSGetBit(BIGINT), BSAnd(BitSet, BitSet), BSOr(BitSet, BitSet), BSEquals(BitSet, BitSet), BSMinus(BitSet, BitSet), BSAndEquals(BitSet, BitSet), BSAndIsEmpty(BitSet, BitSet),

BSGetBitAt(BitSet, BIGINT), BSGetUpperBound(BitSet), BSGetLowerBound(BitSet)"  
(See paragraph [0005-0006])

For claim 9, Vagnozzi teaches "the computer readable program code means in said article of manufacture further comprising computer readable program code means for causing a computer to effect the use of column functions" (See paragraph [0059], [0193], [0197])

For claims 10-18, these claims are rejected on grounds corresponding to the arguments given above for rejected claims 1-9 and are similarly rejected.

For claims 19-27, these claims are rejected on grounds corresponding to the arguments given above for rejected claims 1-9 and are similarly rejected.

For claims 28-36, these claims are rejected on grounds corresponding to the arguments given above for rejected claims 1-9 and are similarly rejected.

**CONCLUSION**

8. The following prior art cited on the PTO-892 form, not relied upon, is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLUBUSOLA ONI whose telephone number is 571-272-2738. The examiner can normally be reached on 7.30-5.00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIM VO can be reached on 571-272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OLUBUSOLA ONI  
Examiner  
Art Unit 2168

  
TIM VO  
PRIMARY EXAMINER